CLAIM AMENDMENTS

1-14 (Canceled)

15. (New) A method of producing a fluxing agent that can be used in production of steel, preferably stainless steel, wherein as a raw material for the production of said fluxing agent is used a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling step for a steel, said hydroxide sludge containing at least one fluoride-containing compound, and said hydroxide sludge is calcined.

16. (New) A method according to claim 15, wherein the hydroxide sludge is calcined and sintered by heating in a stationary furnace or rotary kiln, at a temperature of 1000-1200° C.

17. (New) A method according to claim 16, wherein the calcination comprises the following process steps:

a) evaporation of free water by heating to 150-200° C,

b) evaporation of chemically bonded water by heating to 600-900° C,

c) sintering into a mechanically stable product by heating to 1000-1200 (C, preferably 1000-1100° C.

18. (New) A method according to claim 15, wherein the hydroxide sludge is calcined and melted in a converter by heating at a temperature of 1200-1300° C.

19. (New) A method according to claim 18, wherein the calcination comprises the following process steps:

a) evaporation of free water in the hydroxide sludge by heating to 150-200° C,

b) evaporation of chemically bonded water by heating to 600-900° C,

c) melting the hydroxide sludge by heating to 1200-1300° C,

d) discharging the molten hydroxide sludge from the furnace,

e) cooling off the discharged hydroxide sludge during solidification to form a mechanically stable product,

f) crushing the solidified product.

20. (New) A method according to claim 15, wherein said hydroxide sludge is taken from a landfill.

21. (New) A fluxing agent that can be used in production of steel, preferably stainless steel, wherein it is produced by a method using a fluxing agent that can be used in production of steel, preferably stainless steel, wherein as a raw material for the production of said fluxing agent is used a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling step for a steel, said hydroxide sludge containing at least one fluoride-containing compound, and said hydroxide sludge is calcined.

22. (New) A fluxing agent according to claim 21, wherein it contains 20-80 % by weight, preferably 40-65 % by weight, of CaF_2.

23. (New) A fluxing agent according to claim 21, wherein it contains residual oxides originating from metals in the metal-contaminated pickling liquid.

24. (New) A fluxing agent according to claim 21, wherein it contains (in % by weight):

20-30 Fe_2O_3
4-10 Cr_2O_3
1-4 NiO
8-12 CaO
1-3 SiO_2
0.1-15 $CaSO_4$
0.2-0.5 MnO
0.4-0.6 MgO
max 0.02 C

25. (New) A method in connection with steel production, preferably stainless steel, comprising production of a steel heat and decarburization of the steel heat, whereby a slag is formed on top of said steel heat, wherein a fluxing agent is added to said slag, said fluxing agent comprising a hydroxide sludge resulting from neutralisation of metal-contaminated pickling liquid from a pickling

step for a steel and containing at least one fluoride-containing compound, and said hydroxide sludge is calcined.

26. (New) A method in connection with steel production according to claim 25, wherein said fluxing agent is added to the slag in an amount that partly or totally corresponds to the requirement of CaF_2, preferably in an amount of 30-70%, and suitably about 50%, in order to achieve a desired fluxing effect.

27. (New) A method in connection with steel production according to claim 26, wherein the decarburization is followed by a reduction step in which at least a part of the metal content in the fluxing agent can be reduced and forced into the steel heat by an extra addition of FeSi.

28. (New) A method in connection with steel production according to claim 27, wherein the reduction step comprises addition of CaO.